PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

ion Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

| Complete if Known | | | | |
|------------------------|-------------------------|---|--|--|
| Application Number | 10/646,994 | _ | | |
| Filing Date | August 21, 2003 | | | |
| First Named Inventor | Heinz Willebrand et al. | | | |
| Art Unit | 2638 | | | |
| Examiner Name | Phan, Hanh | | | |
| Attorney Docket Number | 81598 (7293) | フ | | |

| U. S. PATENT DOCUMENTS | | | | | | | |
|------------------------|--------------|---|--------------------------------|--|--|--|--|
| Examiner Initials* | Cite No.1 | Document Number Number-Kind Code ^{2 (F Innove)} | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevan Figures Appear | | |
| IHF | AA | ^{US-} 6,529,556 | 03-04-2003 | Perdue et al. | | | |
| HP | AB | ^{US-} 5,896,211 | 04-20-1999 | Watanabe | | | |
| HP. | AC | ^{US-} 6,009,115 | 12-28-1999 | Но | | | |
| H | AD | ^{US-} 5,347,525 | 09-13-1994 | Faris | | | |
| HP | AE | ^{US-} 2001/0053011 A1 | 12-20-2001 | Imajo | | | |
| HP | AF | ^{US-} 5,600,471 | 02-04-1997 | Hirohashi et al. | | | |
| H | AG | ^{US-} 6,788,666 B1 | 09-07-2004 | Linebarger et al. | | | |
| HP | AH | US- 5,978,117 | 11-02-1999 | Koonen | | | |
| 118 | Al | ^{US-} 5,880,865 | 03-09-1999 | Lu et al. | | | |
| HP | AJ | ^{US-} 5,457,561 | 10-10-1995 | Taneya et al. | | | |
| HI | AK | ^{US-} 5,016,242 | 05-14-1991 | Tang | | | |
| HP. | AL | ^{US-} 4,726,011 | 02-16-1988 | lh et al. | | | |
| HI | АМ | ^{US-} 6,583,908 | 06-24-2003 | Nakamura | | | |
| Hľ | AN | us- 5,999,295 | 12-07-1999 | Vowell | | | |
| HP | AO | us- 2002/0097468 | 07-25-2002 | Mecherle et al. | | | |
| Ül | AP | ^{US-} 6,509,991 | 01-21-2003 | Shibuya | | | |
| HP | AQ | ^{US-} 6,889,009 | 05-03-2005 | Willebrand | | | |
| HP | AR | ^{US-} 6,239,888 B1 | 05-29-2001 | Willebrand | | | |
| M | CG | ^{US-} 4,599,745 | 07-08-1986 | Baran et al. | | | |

| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|--------------|--|---------------------|--|---|----|
| | Cite No.1 | Foreign Patent Document | Publication Date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages | |
| | | Country Code ³ "Number ⁴ "Kind Code ⁵ (<i>II known</i>) | MM-DD-YYYY | | Or Relevant Figures Appear | T⁵ |
| HP | AS | EP 0 835 035 A1 | 04-08-1998 | Alcatel Alsthom | | |
| df | AT | EP 0 876 020 A1 | 11-04-1998 | Alcatel Alsthom | | |
| HI | AU | EP 0 887 965 A1 | 12-30-1998 | Alcatel Alsthom | | |
| HI | ΑV | EP 0 993 124 A2 | 04-12-2000 | Matsushita Electric Industrial | | |
| H | AW | JP 2000-147306 | 05-26-2000 | Kokusai Electric | | ~ |
| Mr | AX | JP 2000-315983 | 11-14-2000 | Hirohashi | | 7 |

| Examiner Signature | Harlphan | Date Considered | 10/08/05 |
|-----------------------|----------|--------------------|----------|

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 'Applicant's unique citation designation number (optional). 'See Kinds Codes of USPTO Patant Documents at www.uspto.gov or MPEP 901.04. 'Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 'For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS, SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08A (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

| | Substitute for form 1449/P | то | | Complete if Known | | | |
|-----|----------------------------|-------------------|--------|------------------------|-------------------------|--|--|
| | | | | Application Number | 10/646,994 | | |
| 1 | INFORMATION | ON DISC | OSLIDE | Filing Date | August 21, 2003 | | |
| | | | | First Named Inventor | Heinz Willebrand et al. | | |
| | STATEMEN [®] | | | Art Unit | 2638 | | |
| | (Use as man | y sheets as neces | sary) | Examiner Name | Phan, Hanh | | |
| She | et 2 | of | 5 | Attorney Docket Number | 81598 (7293) | | |

| U. S. PATENT DOCUMENTS | | | | | |
|------------------------|--------------|--|--------------------------------|--|---|
| Examiner Initials* | Cite No.1 | Document Number Number-Kind Code ² (Finners) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | ļ | US- | | | |
| | | | <u> </u> | | |
| | | US- | | | |
| | | US- | | | |
| - | | US- | | | |
| | | US- | | · · · · · · · · · · · · · · · · · · · | |
| | | US- | | | |
| | | US- | 1 | | |
| | | US- | | | |
| | | US- | 1 | | |
| | | US- | <u></u> | | |
| ** | | US- | | | |
| | | US- | | | |
| | <u> </u> | US- | | | <u> </u> |
| | | US- | | · · · · · · · · · · · · · · · · · · · | |
| - | | US- | | | |
| | | US- | | | |
| | | US- | | | |
| | | US- | | | |
| | | US- | + | | |

| | FOREIGN PATENT DOCUMENTS | | | | | | |
|----|--------------------------|---|---------------------|--|---|----|--|
| | Cite No.1 | Foreign Patent Document | Publication Date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages | | |
| | | Country Code ³ "Number ⁴ "Kind Code ⁸ (if known) | MM-DD-YYYY | | Or Relevant Figures Appear | T⁵ | |
| Hl | AY | JP 2001-103545 | 04-13-2001 | Sato | | V | |
| HP | AZ | WO 00/29886 | 05-25-2000 | California Institute of Technology | | | |
| HI | BA | WO 01/26263 A2 | 04-12-2001 | Kestrel Solutions, Inc. | | | |
| H | ВВ | WO 01/86982 A1 | 11-15-2001 | NTT Docomo, Inc | | | |
| 14 | ВС | WO 01/35551 A1 | 05-17-2001 | Buddatec Co., Ltd. | | | |
| M | BD | EP 1 250 018 A1 | 10-16-2002 | NTT Docomo, Inc | | | |

| Examiner | | Date | |
|-----------|-----------|------------|----------|
| Signature | Manled an | Considered | 10/08/05 |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant. 'Applicant's unique citation designation number (optional). 'See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 'Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 'For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. PTO/SB/08B (08-03)
Approved for use through 07/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
a collection of information unless it contains a valid CMB contains and the contains a valid CMB contains a valid CMB.

| Substitut | te for form 1449/PT | n | <u> </u> | Complete if Known | | |
|-----------------------------------|------------------------|---------------|------------|------------------------|-------------------------|--|
| Substitute for form 1443/F 10 | | | | Application Number | 10/646,994 | |
| INF | ORMATIO | N DIS | CLOSURE | Filing Date | August 21, 2003 | |
| STA | STATEMENT BY APPLICANT | | | First Named Inventor | Heinz Willebrand et al. | |
| | # to | | | Art Unit | 2638 | |
| (Use as many sheets as necessary) | | Examiner Name | Phan, Hanh | | | |
| Sheet | 3 | of | 5 | Attorney Docket Number | 81598 (7293) | |

| | | NON PATENT LITERATURE DOCUMENTS | |
|-----------------------|--------------------------|---|----------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| HP | BE | Cai, M., et al., "5-Gbit/s BER Performance on an All Fiber-Optic Add/Drop Device Based on a Taper Resonator-Taper Structure, "IEEE Photonics Technology Letters, Vol. 12, No. 9, pp.1177-9 (September 2000.) | |
| H | BF | Cai, M., et al., *Observation of Critical Coupling in a Fiber Taper to a Silica-Microsphare Whispering-Gallery Mode System, *Physical Review Letters, Vol. 85, No. 1, pp. 74-7 (July 3, 2000). | |
| H | BG | Cal, M., et al., "Fiber-coupled microsphere laser," Optics Letters, Vol. 25, No. 19, pp. 1430-1432 (October 1, 2000). | |
| Hg | вн | Cai, M., et at., "Fiber-Optic Add-Drop Device Based on a Silica Microsphere-Whispering Gallery Mode System," IEEE Photonics Technology Letters, Vol. 11, No. 6, pp. 686-7 (June 1999). | |
| ЦР | ВІ | Coppin, P. and T.G. Hodgkinson, "Novel Optical Frequency Comb Synthesis Using Optical Feedback," Electronics Letters, Vol. 26, No. 1, pp. 28-30 (January 4, 1990). | |
| HP | вЈ | Kitayama, K., "Highly-Stabilized Millimeter-Wave Generation by Using Fiber-Optic Frequency-Tunable Comb Generator," Journal of Lightwave Technology, Vol. 15, No. 5, pp. 883-93 (May 1997). | |
| HP | вк | Kitayama, K., "Highly-Stabilized, Tunable Millimeter-wave Generation by Using Fiber-optic Frequency Comb Generator," Microwave Photonics, pp. 13-16 (1996). | |
| HP | BL | Logan, Jr., R.T., "All-Optical Heterodyne RF Signal Generation Using a Mode-Locked-Laser Frequency Comb: Theory and Experiments," IEEE International Microwave Symposium Digest, Paper #TH4C-2, 4 pages (June 15, 2000). | |
| HP | вм | Malekl, L., "Technical Support Package on Whispering-Gallery-Mode Microspheres as Light Modulators," Nasa Tech Brief, Vol. 24, No. 11, 10 pages (November 2000). | |
| HP | BN | Novak, D., "Signal Generation Using Pulsed Semiconductor Lasers for Application in Millimeter-Wave Wireless Links," IEEE Transactions on Microwave Theory and Techniques, Vol. 43, No. 9, Part 2, pp. 2257-2262 (September 1995). | |

| Examiner | Martifant | Date | 10/01/ |
|-----------|-----------|------------|---------|
| Signature | Maneyhan | Considered | 1908/65 |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.88. The Information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Approved for use through 07/31/2006. OMB 0851-0031 U.S. Petent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

| Supposited | te for form 1449/PT0 | <u> </u> | | Complete if Known | | |
|-----------------------------------|------------------------|---------------|------------|--|-----------------|--|
| Substitut | (e (d) (d)() 1443/1 (4 | | | Application Number | 10/646,994 | |
| INFO | ORMATIO | N DIS | CLOSURE | Filing Date | August 21, 2003 | |
| STA | TEMENT | BY A | PPLICANT | T First Named Inventor Heinz Willebrand et al. | | |
| | | | | Art Unit | 2638 | |
| (Use as many sheets as necessary) | | Examiner Name | Phan, Hanh | | | |
| Sheet | 4 | of | 5 | Attorney Docket Number | 81598 (7293) | |

| | | NON PATENT LITERATURE DOCUMENTS | | | |
|-----------------------|--------------|--|--|--|--|
| Examiner Initials* | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of | | | |
| HP | во | Otheru, S. and Noboru Takachio, "Methodology of Unequally Spaced Frequency Allocation for WDM Transmission Systems Using Typical Dispersion Shifted Fiver Cable," IEICE Trans. Commun., Vol. E83-B, No. 6, pp. 1290-7 (June 2000). | | | |
| HP | ВР | JDS Uniphase, Product Information for FBG1500-ADM Series - Fiber Bragg Circulated Fixed Add/Drop Modules and WDI515 A1/D1-100GHz Spaced ITU Channel Add/Drop WDM Couplers, 2 pages, http://www.jdsunph.com/HTML/catalog/prod. | | | |
| HP | во | Giganet Corp., Product Information for EtherAir 1500TM - 2x100Base-TX over OC-3/STM-1, 6 pages http://www.giganet-corp.com/1500100/html. | | | |
| HP | BR | Sicom Incorporated, Product Information for DVB Satellite Modulator Products, 1 page, http://www.sicom.com/sicom/products/html. | | | |
| HP | BS | Sicom Incorporated, Product Information for SM7060 Programmable Digital Modulator ASIC and MC2470 Modulator Circuit Card, 6 pages. | | | |
| HI | вт | Gould Fiber Optics, Product Information for Wavelength Division Multiplexers, 5 pages. | | | |
| HP | вυ | Ceragon Networks, Product Information for FiveAir 3100 and FibeAir 6200, 4 pages. | | | |
| HP | BV | ISC IASERsPEED Solutions, Product Information for SkyNetTM 500 Series -Quick Connectivity for 100 Mbps Fast Ethernet, 2 pages. | | | |
| HP | BW | Mohsen Kavehrad, A Coutermeasure to Improve Outage Performance of Interference-Limited Microwave Radio Links; January 1991, Canadian Electrical & Computer Engineering Journal, Vol. 16, No. 1, pp 13-18. | | | |
| ry | вх | Clark, Gerald et al., "Hybrid free space optical/microwave communication networks: a unique solution for ultra high speed local loop connectivity", LightPointe Communications, Inc., pp 46-54, November 2000. | | | |

| Examiner | Harlyhan | Date | 10/0/0 |
|-----------|----------|------------|----------|
| Signature | Karry | Considered | 10/08/08 |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

¹ Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.
This collection of Information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08B (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

| Substitute for form 1449/PTO | | | | Complete if Known | | |
|-----------------------------------|------------------|-------|----------|------------------------|-------------------------|--|
| 50030101 | s to tom 14ar 10 | | | Application Number | 10/646,994 | |
| INFO | DRMATIO | N DIS | CLOSURE | Filing Date | August 21, 2003 | |
| STATEMENT BY APPLICANT | | | PPLICANT | First Named Inventor | Heinz Willebrand et al. | |
| (Use as many sheets as necessary) | | | | Art Unit | 2638 | |
| | | | | Examiner Name | Phan, Hanh | |
| Sheet | 5 | of | 5 | Attorney Docket Number | 81598 (7293) | |

| | _ | | | | |
|-----------------------|--|---|---|--|--|
| | | NON PATENT LITERATURE DOCUMENTS | | | |
| Examiner Initials* | Cite No. ¹ | Cite Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title | | | |
| HP | BY | LIGHTPOINTE COMMUNICATIONS INC., "LMDS Versus Free Space Optical Networks", www.lightpointe.com, Doc. No. 610-006514-H0001, February 21, 2001, pages I-III and 1-15 (18 pages). | | | |
| M | BZ | R.A. MULLEN et al., "Wireless Optics Protection of Fiber via SONET Ring Closure", www.lightpointe.com, pp 1-10. | | | |
| HI | CHINESE PATENT OFFICE, "The First Office Action", dated September 17, 2004, for corresponding application no. 00819317.7, with a copy of pending claims, 17 pages. | | ~ | | |
| HP | СВ | AUSTRALIAN PATENT OFFICE, "Examiner's Report No. 2 on patent application no. 2001252868", dated February 25, 2005, for corresponding application no. 2001252868, with copy of pending claims, 11 pages. | | | |
| HP | CD | EUROPEAN PATENT OFFICE, "European Search Report", dated November 4, 2004, for EP application no. 03019647.1-2415, with copy of searched claims, 5 pages. | | | |
| HP | CE | INDIAN PATENT OFFICE, "First Examination Report", dated June 27, 2005, for corresponding IN application no. IN/PCT/2002/01247/CHE, 2 pages. | | | |
| HP | CF | CHINESE PATENT OFFICE, "Notice on Grant of Patent Right for Invention", dated July 22, 2005, for corresponding application no. 00819317.7, 4 pages. | v | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Examiner | Marlyhan | Date | 11.1- |
|-----------|----------|------------|----------|
| Signature | Kangman | Considered | 10/08/05 |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional).
2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Petent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.